

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

REC'D 14 OCT 2004

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Applicant's or agent's file reference J.	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/DK 03/00704	International filing date (day/month/year) 16.10.2003	Priority date (day/month/year) 22.10.2002
International Patent Classification (IPC) or both national classification and IPC B66B9/08		
Applicant BC LIFT AS et al.		

- This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 4 sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 18.05.2004	Date of completion of this report 13.10.2004
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/DK 03/00704**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-15 as originally filed

Claims, Numbers

1-26 received on 16.09.2004 with letter of 14.09.2004

Drawings, Sheets

1/14-14/14 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-24
	No: Claims	
Inventive step (IS)	Yes: Claims	1-24
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-24
	No: Claims	

- 2. Citations and explanations**
see separate sheet

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Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement:

1. Novelty:

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of the claims does involve novelty in the sense of Article 33(2) PCT.

The closest prior art is seen in US-A-5,967,265 (hereinafter D1). This document discloses particularly in figures 4 and 5 and in column 3, lines 5-8 a staircase lift comprising:

- a) a guide rail extending substantially parallel to a stairway,
- b) a movable carrier frame suspended from the guide rail means including carrier support means, and
- c) drive means of a rack and pinion type drive for displacement of the carrier frame along the guide rail, in which the vertically disposed pinion engaging the rack is provided on the lower side of the guide rail, wherein
- d) the guide rail includes internal support surfaces (which may be engaged by the carrier support means), wherein
- e) the drive means is comprising a first and second set of guiding means pivotally arranged one behind the other on each side of the pinion drive wheel in the frame.

The concept, that the pivotally arranged first and second guiding means each include a movement control lever with a first end where at least one set of guiding members are mounted, a second end at which point the first and second movement control levers are joined to each other by an universal joint, said universal joint being substantially in the traction plane, is neither suggested nor rendered obvious by the available prior art.

3. General points:

- 3.1.** Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

- 3.2.** The features of the claims are not provided with reference signs placed in

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parentheses (Rule 6.2(b) PCT).

AMENDED PATENT CLAIMS:

1. A staircase lift for transporting a disabled person between floors, including
- at least one guide rail extending substantially parallel to a stairway,
 - 5 - a moveable carrier frame suspended from the guide rail means including carrier support means,
 - drive means of a rack and pinion type drive for displacement of the carrier frame along the guide rail, in which the vertically disposed pinion engaging the rack is provided on the lower side of the guide rail,
 - 10 - wherein the at least one guide rail is including internal support surfaces which are engaged by the carrier support means,
 - the drive means is comprising a first and second set of guiding means pivotally arranged one behind the other on each side of the pinion drive wheel in the frame,

15 characterised in that

the pivotally arranged first and second guiding means each include a movement control lever with a first end where at least one set of guiding members are mounted, a second end at which point the first and second movement control levers are joined
20 to each other by a universal joint, said universal joint being substantially in the traction plane.

2. A staircase lift according to claim 1, wherein the carrier support means include at least one carrier member arranged above the pinion drive wheel substantially in a
25 traction plane and with an axis of rotation which is substantially perpendicular to the direction of travel, and wherein each of the first and second set of guiding means include an essentially vertically arranged carrier member and a top and bottom guiding member having a rotary axis substantially perpendicular to that of the carrier member.

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3. A staircase lift according to claim 1 or 2, wherein the movement control levers are pivotally mounted to the carrier frame at an equal distance from the universal joint on each side thereof.

- 5 4. A staircase lift according to any of the claims 1 to 3, wherein the guide rail has a generally reverse U-shape comprising a lower rail opening beside the rack of the guide rail, and wherein the guide rail in its internal cavity is provided with at least one support surface essentially perpendicular to the traction plane for receiving the carrier members and a number of substantially vertical support surfaces for receiving
- 10 engagement with the guide members.

5. A staircase lift according to any of the preceding claims, wherein the carrier member is slide shoe member.

- 15 6. A staircase lift according to any of the claims 1 to 4, wherein the carrier member is a roller.

7. A staircase lift according to any of the preceding claims, wherein the guiding members are slide shoe members.

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8. A staircase lift according to any of the claims 1 to 6, wherein the guiding members are guide rollers.

9. A staircase lift according to any of the preceding claims, wherein the teeth of the pinion wheel are substantially circular in the cross-section and the rack of the guide
- 25 rail displays a row of correspondingly shaped circular holes.

10. A staircase lift according to any of the preceding claims, wherein at least one section of the guide rail is curved in one or more planes.

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11. A staircase lift according to any of the preceding claims, wherein the staircase lift further includes a supporting guide rail mounted parallelly to the first guide rail.

12. A staircase lift according to any of the preceding claims, wherein the carrier frame is provided with a platform adapted to accommodate a wheelchair.

5 13. A staircase lift according to any of the preceding claims, wherein the carrier frame is provided with a foldable seat.

10 14. A staircase lift according to any of the preceding claims, wherein the guide rail is provided with at least one power conductor rail and the carrier frame is provided with associated contact members for providing power to an electrical motor of the drive means.

15 15. A staircase lift according to claim 13, wherein one or more further conductor rails and associated contact members are arranged for a lift control panel provided on the carrier frame.

16. A moveable carrier frame for use in a staircase lift according to any of the preceding claims.

20 17. A guide rail for use in a staircase lift according to any of the claims 1 to 15, said guide rail including a generally reverse U-shape comprising a bottom rail opening beside a groove for receiving a rack for cooperating with a pinion drive wheel, and wherein the guide rail in its internal cavity is provided with at least one support surface essentially perpendicular to the traction plane for receiving one or more
25 carrier members and a number of substantially vertical support surfaces for receiving engagement with a number of guide members.

18. A guide rail according to claim 17, wherein the guide rail is provided with side mounting means.

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19. A guide rail according to claim 17 or 18, wherein the guide rail is provided with an upper and a lower set of guide member support surfaces, each set having opposite surfaces.

5 20. A guide rail according to claim 17 or 18, wherein the guide rail is provided with an upper guide member support surface facing towards the side mounting means and a second lower guide member support surface facing away from the side mounting means, and wherein the lateral distance between the side mounting means and the carrier member support surface is smaller than the distance between the side
10 mounting means and the lower guide member support surface which again is smaller than the distance between the side mounting means and the upper guide member support surface.

21. A guide rail according to any of the claims 17 to 20, wherein the guide rail is
15 provided with at least one power conductor rail and the carrier frame is provided with associated electric contact members for providing power to driving a suspended carrier frame.

22. A guide rail according to claim 21, wherein one or more further conductor rails
20 and associated contact members are arranged for a lift control panel provided on the carrier frame.

23. A guide rail according to any of the claims 17 to 22, wherein said guide rail is an
aluminium profile.

25 24. A guide rail according to claim 23, wherein the aluminium profile is provided with a surface treatment, such as a coloured surface, preferably by being anodised.